

0280#2

OIPE

RAW SEQUENCE LISTING DATE: 12/27/2000
 PATENT APPLICATION: US/09/734,329 TIME: 09:35:49

Input Set : A:\UTXC666.txt
 Output Set: N:\CRF3\12272000\I734329.raw

ENTERED

```

3 <110> APPLICANT: de CROMBRUGGHE, BENOTT
4   NAKASHIMA, KAZUHISA
5   ZHOU, XIN
7 <120> TITLE OF INVENTION: MASTER BONE FORMATION TRANSCRIPTION FACTOR:
8   COMPOSITIONS AND METHODS OF USE
10 <130> FILE REFERENCE: UTXC:666
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/734,329
13 <141> CURRENT FILING DATE: 2000-11-30
15 <160> NUMBER OF SEQ ID NOS: 6
17 <170> SOFTWARE: PatentIn Ver. 2.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 2960
21 <212> TYPE: DNA
22 <213> ORGANISM: Mus musculus
24 <220> FEATURE:
25 <221> NAME/KEY: CDS
26 <222> LOCATION: (100)..(1383)
28 <400> SEQUENCE: 1
29 atttctccat tctccctccc tctcccttct cctctctcca ctggctcttc ggtctctcc 60
31 atctgcctga ctcttggga cccggctccc agctcgagg atg gcg tcc tct ctg 114
32                                     Met Ala Ser Ser Leu
33                                     1       5
35 ctt gag gaa gaa gct cac tat ggc tcc agt ccc ctg gcc atg ctg act 162
36 Leu Glu Glu Glu Ala His Tyr Gly Ser Ser Pro Leu Ala Met Leu Thr
37                                     10      15      20
39 gca gcc tgc tcc aaa ttt ggc ggc tct agc cct ctg cgg gac tca aca 210
40 Ala Ala Cys Ser Lys Phe Gly Gly Ser Ser Pro Leu Arg Asp Ser Thr
41                                     25      30      35
43 acc ctg ggg aaa gga ggc aca aag aag cca tac gct gac ctt tca gcc 258
44 Thr Leu Gly Lys Gly Gly Thr Lys Lys Pro Tyr Ala Asp Leu Ser Ala
45                                     40      45      50
47 ccc aaa acc atg ggg gac gcc tac cca gct ccc ttc tca agc acc aat 306
48 Pro Lys Thr Met Gly Asp Ala Tyr Pro Ala Pro Phe Ser Ser Thr Asn
49                                     55      60      65
51 gga ctc ctc tct cct gca ggc agt cct ccg gcc cca gcc tct ggc tat 354
52 Gly Leu Leu Ser Pro Ala Gly Ser Pro Pro Ala Pro Ala Ser Gly Tyr
53 70                                     75      80      85
55 gca aat gac tac cca ccc ttc cct cac tca ttt cct ggg ccc acc ggt 402
56 Ala Asn Asp Tyr Pro Pro Phe Pro His Ser Phe Pro Gly Pro Thr Gly
57                                     90      95      100
59 gcc caa gac cct ggg ctc cta gtg cct aag ggg cac agc tgg tct gac 450
60 Ala Glu Asp Pro Gly Leu Leu Val Pro Lys Gly His Ser Ser Ser Asp
61                                     105     110     115
63 tgc ctg cct agt gtc tac act tcc ctg gat atg act cat ccc tat ggc 498
64 Cys Leu Pro Ser Val Tyr Thr Ser Leu Asp Met Thr His Pro Tyr Gly
65                                     120     125     130
67 tgg tgg tac aag gca ggc atc cac gca ggc atc tca cca ggt cca ggc 546

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/734,329

DATE: 12/27/2000

TIME: 09:35:49

Input Set : A:\UTXC666.txt

Output Set: N:\CRF3\12272000\I734329.raw

```

68 Ser Trp Tyr Lys Ala Gly ile s Ala Gly ile Ser Pro Gly Pro Gly
69 135 140 145
71 aac aca cct act cct tgg tgg gac atg cac cct ggg qgc aac tgg cta 594
72 Asn Thr Pro Thr Pro Trp Trp Asp Met His Pro Gly Gly Asn Trp Leu
73 150 155 160 165
75 ggt ggt ggt cag ggc cag ggt gat ggg ctg caa ggg aca ctg tcc aca 642
76 Gly Gly Gly Gln Gln Gly Gln Asp Gly Leu Gln Gly Thr Leu Ser Thr
77 170 175 180
79 qgc cct gcc cag cct cca ctg aac ccc cag ctg cct act tac cca tct 690
80 Gly Pro Ala Gln Pro Pro Leu Asn Pro Gln Leu Pro Thr Tyr Pro Ser
81 185 190 195
83 gac ttt gct ccc ctt aac cca gct ccc tac cca gcg ccc cac ctg ttg 738
84 Asp Phe Ala Pro Leu Asn Pro Ala Pro Tyr Pro Ala Pro His Leu Leu
85 200 205 210
87 caa cca ggg ccc cag cat gtc cta ccc caa gat gtc tat aag ccc aag 786
88 Gln Pro Gly Pro Gln His Val Leu Pro Gln Asp Val Tyr Lys Pro Lys
89 215 220 225
91 gcg gtt ggc aat agt ggg caa ctg gag ggg agt ggt gca gcc aaa ccc 834
92 Ala Val Gly Asn Ser Gly Gln Leu Glu Gly Ser Gly Ala Ala Lys Pro
93 230 235 240 245
95 cct cgg ggt gct ggc aca ggg ggc agc ggt gga tat gcg ggc agt ggg 882
96 Pro Arg Gly Ala Gly Thr Gly Gly Ser Gly Gly Tyr Ala Gly Ser Gly
97 250 255 260
99 gca ggg cgt tct acc tgc gac tgc ccc aac tgt cag gag cta gag cgg 930
100 Ala Gly Arg Ser Thr Cys Asp Cys Pro Asn Cys Gln Glu Leu Glu Arg
101 265 270 275
103 ctg ggg gca gca gcg gct ggg ctg aag aag aag ccc att cac agc tgc 978
104 Leu Gly Ala Ala Ala Gly Leu Arg Lys Lys Pro Ile His Ser Cys
105 280 285 290
107 cac atc cct ggg tgc ggc aag gtg tac ggc aag gct tgc cat ctg aaa 1026
108 His Ile Pro Gly Cys Gly Lys Val Tyr Gly Lys Ala Ser His Leu Lys
109 295 300 305
111 gcc ca . ttg cgc tgg cac act ggc gag aag cct ttc gtc tgc aac tgg 1074
112 Ala His Leu Arg Trp His Thr Gly Glu Arg Pro Phe Val Cys Asn Trp
113 310 315 320 325
115 ctt ttc tgc ggc aag agt ttc act cgc tct gac gag ctg gag cgc cac 1122
116 Leu Phe Cys Gly Lys Arg Phe Thr Arg Ser Asp Glu Leu Glu Arg His
117 330 335 340
119 gtg cgc act cac acc cgg gag aag aag ttc act tgc ctg ctg tgt tcc 1170
120 Val Arg Thr His Thr Arg Glu Lys Lys Phe Thr Cys Leu Leu Cys Ser
121 345 350 355
123 aag cgc ttt acc aga agc gac cac ttg agc aaa cat cag cgc acc cac 1218
124 Lys Arg Phe Thr Arg Ser Asp His Leu Ser Lys His Gln Arg Thr His
125 360 365 370
127 ggg gag cca ggc ccg gga ccg ccc cca agt ggc cct aag gag ctg ggg 1266
128 Gly Glu Pro Gly Pro Gly Pro Pro Pro Ser Gly Pro Lys Glu Leu Gly
129 375 380 385
131 gag ggt cgc agc gtc ggg gaa gaa gaa ggc aat cag ccg ccc cga tct 1314
132 Glu Gly Arg Ser Val Gly Glu Glu Glu Ala Asn Gln Pro Pro Arg Ser

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/734,329
 DATE: 12/27/2000
 TIME: 09:35:49

Input Set : A:\UTXC666.txt
 Output Set: N:\CRF3\12272000\I734329.raw

```

133 390          395          400          405
135 tcc act tcy cct gca ccc cca gaa aaa gcc cac gga ggc agc cca gag 1362
136 Ser Thr Ser Pro Ala Pro Pro Glu Lys Ala His Gly Gly Ser Pro Glu
137          410          415          420
139 cag ayc aac ctg cta gag atc tgagccgggt agaggaaggt ctccagctcc 1413
140 Gln Ser Asn Leu Leu Glu Ile
141          425
143 agggctctct tgcacagctc tcttgccgtg ctggacccat tgggttgcctc tgcctctctc 1473
145 ctattgcatg ctatactctg ggggtctctt ctgttccctt aggcctatctc ctgcatgttc 1533
147 tctcagttc tctctctctt gtcacagatc ttacccaaac tctctcagg ccttgcag 1593
149 tgcctagttc ctatgctccg acctctcaa cttttctctc tctgcccctg tctctcag 1653
151 ctctcatctg gctctcactc atttctctat taactcgttg ccatctaatc tttctgcttc 1713
153 ccaatccctt ttgcccgttt cccgaagctt ccaggtctgc gctctgattc ccccccact 1773
155 tctgctcttc tgagctttgt gttttctttt ttttaacaaa cagcatgatg atgatgatga 1833
157 tgatgataat ttattgcccc ctggtgttct tcattaggaa ccagagttaa ggagatttgt 1893
159 gtttagtaacc tggccggggg cagagtgcca agaaagggga agtccaatgq ggaatctgac 1953
161 ccaaaagatg ggtgacccca ggtcagggga ggtgcccccc agccttgagt acttaacccc 2013
163 tatgcgccag gagttaaagaa taqtaataat aataataata ataattctat ttatctaaqt 2073
165 tatgatgacg ggtcaggtac agtgagcttg agagggaagq ggattctccc cgcgcccaag 2133
167 gaaattctag tcaaatgcat ctctctatag acaaatgata tlggagacct tctctgtaqa 2193
169 tttctatctc caggtctctc gagagttctt ttttcagttg agttttgggt tgttcggcct 2253
171 cttttagagt tctctgtggg gtctctctgt taggcagtca ctaagatccc cagccccagc 2313
173 cagaaagctg tgaaccttca agtccctatg cggggaggac tggaaatgtac cccagctctc 2373
175 tgcacccgac tgcagatcag gttctctccc tgatctctct ctcatacct gtgacctcac 2433
177 caggttatcc ccttctctg atggttaccg agagcttgca gctgcatctt taaacgtgct 2493
179 ctttggggga gagccacctt aacaggaggga ttttgggttg gaggtgcccc tctgaaaaaa 2553
181 gtaggtgggc aaagccttct tctgggata aattcaataa aatcaagtat ttattgaatg 2613
183 cttaatatgt qcaaggcctg gtgcctagaa gccacgagaa agaatttata acaggacaga 2673
185 agtccctaaa ctaaacatcc acaggccccc aatctaggag gtttcactcc attccagtga 2733
187 cttttaaagc cgttttgtgc ctttgaatg cctttcctga gatttttgga tcttctgtgt 2793
189 ctgtccctg ctctctctag gcttcaagat aaagggtaaa gccatggagt ctgggaagag 2853
191 cataacgtcg ttgacgggat cgtccctttt tqgaatcttt cttttttttt taatttaata 2913
193 aataaaagtt ctttttcaa aaaaaaa aaaaaaa aaaaaaa 2960
196 <210> SEQ ID NO: 2
197 <211> LENGTH: 428
198 <212> TYPE: PRT
199 <213> ORGANISM: Mus musculus
201 <400> SEQUENCE: 2
202 Met Ala Ser Ser Leu Leu Glu Glu Glu Ala His Tyr Gly Ser Ser Pro
203 1 5 10 15
205 Leu Ala Met Leu Thr Ala Ala Cys Ser Lys Phe Gly Gly Ser Ser Pro
206 20 25 30
208 Leu Arg Asp Ser Thr Thr Leu Gly Lys Gly Gly Thr Lys Lys Pro Tyr
209 35 40 45
211 Ala Asp Leu Ser Ala Pro Lys Thr Met Gly Asp Ala Tyr Pro Ala Pro
212 50 55 60
214 Phe Ser Ser Thr Asn Gly Leu Leu Ser Pro Ala Gly Ser Pro Pro Ala
215 65 70 75 80
217 Pro Ala Ser Gly Tyr Ala Asn Asp Tyr Pro Pro Phe Pro His Ser Phe

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/734,329

DATE: 12/27/2000

TIME: 09:35:49

Input Set : A:\UTXC666.txt

Output Set: N:\CRF3\12272000\I734329.raw

```

218          85          90          95
220 Pro Gly Pro Thr Gly Ala Gln Asp Pro Gly Leu Leu Val Pro Lys Gly
221          100          105          110
223 His Ser Ser Ser Asp Cys Leu Pro Ser Val Tyr Thr Ser Leu Asp Met
224          115          120          125
226 Thr His Pro Tyr Gly Ser Trp Tyr Lys Ala Gly Ile His Ala Gly Ile
227          130          135          140
229 Ser Pro Gly Pro Gly Asn Thr Pro Thr Pro Trp Trp Asp Met His Pro
230 145          150          155          160
232 Gly Gly Asn Trp Leu Gly Gly Gly Gln Gly Gln Gly Asp Gly Leu Gln
233          165          170          175
235 Gly Thr Leu Ser Thr Gly Pro Ala Gln Pro Pro Leu Asn Pro Gln Leu
236          180          185          190
238 Pro Thr Tyr Pro Ser Asp Phe Ala Pro Leu Asn Pro Ala Pro Tyr Pro
239          195          200          205
241 Ala Pro His Leu Leu Gln Pro Gly Pro Gln His Val Leu Pro Gln Asp
242          210          215          220
244 Val Tyr Lys Pro Lys Ala Val Gly Asn Ser Gly Gln Leu Glu Gly Ser
245 225          230          235          240
247 Gly Ala Ala Lys Pro Pro Arg Gly Ala Gly Thr Gly Gly Ser Gly Gly
248          245          250          255
250 Tyr Ala Gly Ser Gly Ala Gly Arg Ser Thr Cys Asp Cys Pro Asn Cys
251          260          265          270
253 Gln Glu Leu Glu Arg Leu Gly Ala Ala Ala Gly Leu Arg Lys Lys
254          275          280          285
256 Pro Ile His Ser Cys His Ile Pro Gly Cys Gly Lys Val Tyr Gly Lys
257          290          295          300
259 Ala Ser His Leu Lys Ala His Leu Arg Trp His Thr Gly Glu Arg Pro
260 305          310          315          320
262 Phe Val Cys Asn Trp Leu Phe Cys Gly Lys Arg Phe Thr Arg Ser Asp
263          325          330          335
265 Glu Leu Glu Arg His Val Arg Thr His Thr Arg Glu Lys Lys Phe Thr
266          340          345          350
268 Cys Leu Leu Cys Ser Lys Arg Phe Thr Arg Ser Asp His Leu Ser Lys
269          355          360          365
271 His Gln Arg Thr His Gly Glu Pro Gly Pro Gly Pro Pro Pro Ser Gly
272          370          375          380
274 Pro Lys Glu Leu Gly Glu Gly Arg Ser Val Gly Glu Glu Glu Ala Asn
275 385          390          395          400
277 Gln Pro Pro Arg Ser Ser Thr Ser Pro Ala Pro Pro Glu Lys Ala His
278          405          410          415
280 Gly Gly Ser Pro Glu Gln Ser Asn Leu Leu Glu Ile
281          420          425
285 <210> SEQ ID NO: 3
286 <211> LENGTH: 14
287 <212> TYPE: PRT
288 <213> ORGANISM: Mus musculus
290 <400> SEQUENCE: 3
291 Ala His Gly Gly Ser Pro Glu Gln Ser Asn Leu Leu Glu Ile

```

RAW SEQUENCE LISTING

DATE: 12/27/2000

PATENT APPLICATION: US/09/734,329

TIME: 09:35:49

Input Set : A:\UTXC666.txt

Output Set: N:\CRF3\12272000\I734329.raw

```

292      1          5          10
295 <210> SEQ ID NO: 4
296 <211> LENGTH: 85
297 <212> TYPE: PRT
298 <213> ORGANISM: Mus musculus
300 <400> SEQUENCE: 4
301 Ile His Ser Cys His Ile Pro Gly Cys Gly Lys Val Tyr Gly Lys Ala
302      1          5          10          15
304 Ser His Leu Lys Ala His Leu Arg Trp His Thr Gly Glu Arg Pro Phe
305      20          25          30
307 Val Cys Asn Trp Leu Phe Cys Gly Lys Arg Phe Thr Arg Ser Asp Glu
308      35          40          45
310 Leu Glu Arg His Val Arg Thr His Thr Arg Glu Lys Lys Phe Thr Cys
311      50          55          60
313 Leu Leu Cys Ser Lys Arg Phe Thr Arg Ser Asp His Leu Ser Lys His
314      65          70          75          80
316 Gln Arg Thr His Gly
317      85
320 <210> SEQ ID NO: 5
321 <211> LENGTH: 244
322 <212> TYPE: PRT
323 <213> ORGANISM: Mus musculus
325 <400> SEQUENCE: 5
326 Phe Gly Gly Ser Ser Pro Leu Arg Asp Ser Thr Thr Leu Gly Lys Gly
327      1          5          10          15
329 Gly Thr Lys Lys Pro Tyr Ala Asp Leu Ser Ala Pro Lys Thr Met Gly
330      20          25          30
332 Asp Ala Tyr Pro Ala Pro Phe Ser Ser Thr Asn Gly Leu Leu Ser Pro
333      35          40          45
335 Ala Gly Ser Pro Pro Ala Pro Ala Ser Gly Tyr Ala Asn Asp Tyr Pro
336      50          55          60
338 Pro Phe Pro His Ser Phe Pro Gly Pro Thr Gly Ala Gln Asp Pro Gly
339      65          70          75          80
341 Leu Leu Val Pro Lys Gly His Ser Ser Ser Asp Cys Leu Pro Ser Val
342      85          90          95
344 Tyr Thr Ser Leu Asp Met Thr His Pro Tyr Gly Ser Trp Tyr Lys Ala
345      100          105          110
347 Gly Ile His Ala Gly Ile Ser Pro Gly Pro Gly Asn Thr Pro Thr Pro
348      115          120          125
350 Trp Trp Asp Met His Pro Gly Gly Asn Trp Leu Gly Gly Gln Gly
351      130          135          140
353 Gln Gly Asp Gly Leu Gln Gly Thr Leu Ser Thr Gly Pro Ala Gln Pro
354      145          150          155          160
356 Pro Leu Asn Pro Gln Leu Pro Thr Tyr Pro Ser Asp Phe Ala Pro Leu
357      165          170          175
359 Asn Pro Ala Pro Tyr Pro Ala Pro His Leu Leu Gln Pro Gly Pro Gln
360      180          185          190
362 His Val Leu Pro Gln Asp Val Tyr Lys Pro Lys Ala Val Gly Asn Ser
363      195          200          205

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/734,329

DATE: 12/27/2000

TIME: 09:35:50

Input Set : A:\UTXC666.txt

Output Set: N:\CRF3\12272000\I734329.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number